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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/771,411	02/05/2004	Hideyasu Takatsuji	43888-294	3846

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MCDERMOTT, WILL & EMERY  
600 13th Street, N.W.  
WASHINGTON, DC 20005-3096

EXAMINER
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MERCADO, JULIAN A

ART UNIT	PAPER NUMBER
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1745

MAIL DATE	DELIVERY MODE
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07/30/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/771,411	<b>Applicant(s)</b> TAKATSUJI ET AL.	
	<b>Examiner</b> Julian Mercado	<b>Art Unit</b> 1745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 24 April 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1 and 2 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 2 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Remarks*

Claims 1 and 2 are pending.

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kweon et al. (U.S. Pat. 6,783,890 B2) in view of Okamura et al. (JP 06 -150929).

The rejection is maintained for the reasons of record. Claims 1 and 2 are as previously presented. Applicant's arguments filed with the present amendment have been fully considered, however they are not found persuasive.

The alleged unexpected results are noted. Applicant submits that both Okamura et al. and Kweon et al. fail to disclose the unexpected superior characteristics derived from the limiting of Na and K to the narrow range of the claimed invention. Examples 1-14, which are batteries in which Na or K are within the range cited in claim 1 ( $0.0002 \leq \leq 0.008$ ), have average positive electrode utilization values of approximately 136 mAh/g. In comparison, Comparative Examples 7 and 9 exhibit a value of 124 and 122 mAh/g, respectively. Applicant thus concludes that "as is clear from the data, batteries with concentrations of Na and K within the claimed

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ranges exhibit significantly superior and unexpected characteristics than batteries outside the claimed ranges.” This argument is not persuasive, for the following reasons:

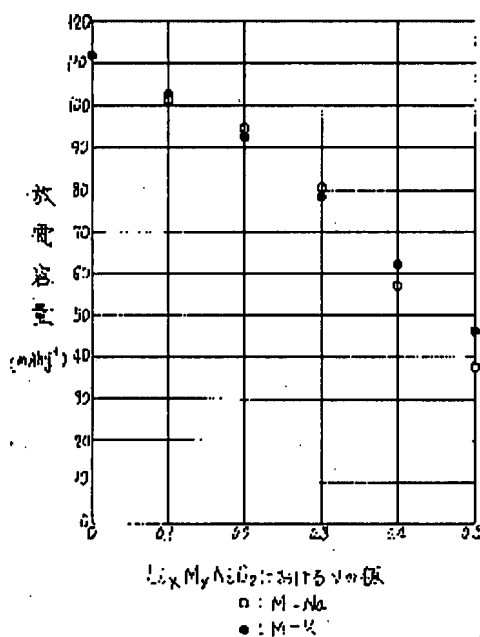
Firstly, it cannot be said that concentrations of Na and K *outside the claimed ranges* fail to exhibit the alleged unexpected properties. See, for example, Comparative Example 6, in which Na has a coefficient of 0.0001, and Comparative Example 8, in which K has a coefficient of 0.0001. The resultant positive electrode utilization values at 139 and 138, respectively, are evidently *higher* than the average value of 136 in Examples 1-14. See Table 4. The higher positive electrode utilization values of 138-139 as compared to an average value of 136 is remarkable as the concentrations of Na and K which effect the higher values are *outside the claimed ranges*.

Secondly, if Comparative Examples 7 and 9, which are outside applicant's claimed range, are asserted by applicant as being within the broader ranges disclosed by the prior art and thus representative of the prior art, it would equally follow therefore that Comparative Examples 6 and 8, also outside of applicant's claimed range while also being within the broader ranges disclosed by the prior art, are also a fair representation of what the prior art teaches. Indeed, the difference between the two sets of examples is the amount of Na and K; Comparative Examples 6 and 8 have a lower proportion of Na and K at 0.0001 each, as compared to Comparative Examples 7 and 9 at 0.01 each. The apparent conclusion from the data provided for by the comparative examples is that a lower amount of Na and K results in a higher positive electrode utilization value. This effect, however, was independently established in the prior Office action, as Okamura et al. specifically discloses that the amount of Na or K inversely affects the discharge capacity of the battery. Figure 2 shows that the amount of Na or K is inversely

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proportional to the discharge capacity, i.e. a lower amount of Na or K would resultantly increase the electrode utilization value. The superior effects of a lower amount of Na or K are evidenced by the higher positive electrode utilization values of Comparative Examples 6 and 8. Thus, the examiner asserts that the instant comparison of Examples 1-14 to the comparative examples fails to show any unexpected results, and maintains that it would not require undue experimentation for the skilled artisan to focus on amounts of N and K at the bottom of the disclosed range of 0 to 0.3, e.g. 0.0001, as shown by the comparative examples, in order to obtain a higher discharge capacity.

For reference, attached is Figure 2 of Okamura et al.



### *Double Patenting*

Claims 1 and 2 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1 and 3 of U.S. Patent No. 7,150,942 B2 to Okochi

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et al. in view of Okamura et al. (JP 06 –150929). This rejection is maintained for the reasons of record.

Applicant's arguments have been fully considered, however they are not found persuasive. Applicant submits that the rejection does not rely on Okochi alone to render the present application obvious. It appears to the examiner that in applicant's view, for an obviousness-type double patenting rejection to be proper, it must be based solely on the reference claim. In reply, the examiner asserts that the rejection *was* based on the reference claim (claims 1 and 3) of the cited Patent, with these *claims* taken in combination with Okamura et al. The examiner notes that the prior art is not precluded from being used in an obviousness-type double patenting rejection, with the sole exception of the instant Patent disclosure itself.

“When considering whether the invention defined in a claim of an application would have been an obvious variation of the invention defined in the claim of a patent, the disclosure of the patent may not be used as prior art. *General Foods Corp. v. Studiengesellschaft Kohle mbH*, 972 F.2d 1272, 1279, 23 USPQ2d 1839, 1846 (Fed. Cir. 1992).” It is noted that the patent disclosure was not used in the formulation of the instant rejection—only its reference claims 1 and 3.

Furthermore, applicant is reminded that the analysis employed in an obviousness-type double patenting rejection parallels the guidelines for analysis of a 35 U.S.C. 103 obviousness determination. *In re Braat*, 937 F.2d 589, 19 USPQ2d 1289 (Fed. Cir. 1991); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985).

***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julian Mercado whose telephone number is (571) 272-1289. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick J. Ryan, can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR

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system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.



Handwritten signature of Patrick Joseph Ryan.



PATRICK JOSEPH RYAN  
SUPERVISORY PATENT EXAMINER